DOCUMENT RESUME

ED 367 181 FL 021 911

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TITLE Factors Affecting the Second Year Students' Achievement in Learning EAP: A Path Analysis.
PUB DATE 93
NOTE 18p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Achievement Gains; *Curriculum Design; English (Second Language); *English for Academic Purposes; *Failure; Foreign Countries; Higher Education; Instructional Effectiveness; Language Role; *Student Characteristics; *Teacher Characteristics; Teaching Experience; Undergraduate Students

ABSTRACT

A study investigated the possible reasons for low achievement gains in English for Academic Purposes (EAP) courses among Thai university students in their second year of EAP instruction. Second-year EAP midterm and final examination grades were compared by path analysis with a variety of student variables (sex, English language background, age, secondary school type and location, tutoring, course load, family income, educational attitudes, motivation, and study habits), teacher variables (experience in an English-speaking country, degrees held, major field of study, English teaching experience, instructional attitudes, and knowledge about and appreciation of the communicative approach to language instruction), and curriculum design variables (teaching methods, course length, and supplementary teaching). Subjects were 460 students in a number of disciplines at Chulalongkorn University. Results indicate that second-year EAP achievement is directly correlated with: student gender; secondary school program; general English background; motivation; teachers' qualifications, English-teaching experience, experience in an English-speaking country, and major field of study; teaching method; and supplementary teaching. An additional five variables had statistically significant indirect effects on student achievement. Some explanations for the results are offered. (MSE)

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ED 367 181

Factors Affecting the Second Year Students' Achievement in Learning EAP: A Path Analysis

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Introduction

It has been widely accepted that English is a very important for Thailand in the areas of education, science, technology, business, politics, military, medicine and others. The information related to these areas is spreading all over the world mainly via English. Eventhrough in Thailand we use Thai as our national language, the language used to transmit and also transfer information in the areas mentioned above is English. Based on a recent study, it was found that within the next 15 years until the year 2005 English will be one of five very important languages for Thailand besides Japanese, Chinese, German and Spanich. They will make Thailand a very succesful and prosperous country in business, education, science, technology and also politics. (P. Watcharastian, 1990: 5-3). Therefore, at present most educational institutes in Thailand are putting more emphasis on teaching and learning English. The Ministry of Education once again is in the process of reconsidering having English taught in schools as a compulsary subject after having it as an elective subject in 1976. Many universities require their students to take more English courses and some use English as a medium of instruction in teaching special programs mainly in business, engineering and science.

However, English has been taught in Thailand officially more than 70 years since 1921, but generally speaking, its result is far less than satisfactory. From a meta-analysis of some 350 research works in the field of English teaching and learning in Thailand during 1972-1987 (16 years), it was found that, on average, the achievements of the students in all levels, primary, secondary and tertiary educations, werelow and less than satisfactory level (60%), eventhough they had been learning English for many years like 4, 8 and 12. (S. Sukamolson, 1990: 172). Based on scores of the English Entrance Examinations given to high school graduates to get mainly into mainly government universities each year, it was found that approximately 24% of them could pass the tests. This figure is very close to the result found by the Technical Department, the Ministry of Education when a standardized English test was used to measure senior students' (Methayom 6 or Grade 12 equivalent.) English achievement throughout the country. As a result, Professor Dr. Wichit Srisa-ant, the Permament Secretary of the Ministry of University Affairs and a well-known educator in Thailand, once said in 1990 that English teaching and learning in Thailand was a total failure. (W. Srisa-ant: 1990: 6)

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Rationale

Up until 1975, English had been a compulsory subject as a foreign language in primary school starting with the 5th grade and secondary school. Students were required to learn Engligh 5 to 10 hours per week over a 9-10 year span. Inadequate and unsatisfactory results along with political pressure led to the abondanment of this policy in 1976. Since then English is one of the foreign languages that may be learnt in primary and secondary schools as an election subject. Based on a recent national assessment in 1985, it was found that 72.9% of 17,067 classes of sixth grade students were offered English. The general English proficiency of grade 6 students was as low as 29.66% (Benjathurawong, 1985: 56).

However, there is no government policy set for higher education levels. It is explicitly stated in the National Scheme of Education that "Institutes of higher education shall be given freedom and autonomy in administering their academic affairs, as long that they are not adverse to national policies and guidelines" (ONEC, 1977: 12). Therefore, each higher educational institute adheres to its own policies in teaching English and other foreign languages.

At Chulalongkorn University all 16 faculties offer foundation English courses to their students in their first or second years. Five of them also offer (English for Academic Purposes) courses to their students in their second year.

Each year, generally speaking, it was found that the achievement of the second year students in learning EAP was only moderate and many of them got low grades or even failed. Majority of them should have got high grades (B's) instead of average grades (C's) because they have been learning English for at least 9 years which is a very long period of time.

The problems is that what factors affect their achievement in learning EAP courses. This is what we would like to know.

In fact, there are many studies in the country and abroad about the factors affecting the students' achievement in learning English, but most of them are correlational studies. Very few of them use a path analysis. For example, many studies found that, on average, the female students at primary, secondary and tertiary levels have significatnly higher achievement and proficiency in English than the male students (T. Subongkot, 1967: 76; P. Charernpol, 1983: 81; J. Jitsopak, 1986: 67). It was also found that the students' achievement in learning foundation English courses at Chulalongkorn University correlates rather highly with their general English proficiency. Their correlation coefficients in the aspects of listening, reading and writing are ranging from 0.724 to 0.762 (S. Sukamolson, 1990: 75). Based on a path analysis, it was found that general English back ground of secondary students has the effect as highly as 0.6193 on their English achievement (T. Kan-in, 1989: 78).

Moreover, it was found in many other studies that there are some other factors that have significant effects on the students' achievement in learning English at a university level. As stated above; however, such findings are based mostly oncorrelational studies. Theoretically, they are not accurate and realistic enough because many factors may not always have only direct effects on the students' achievement. They may have only indirect effects or both. These can be found in a path analysis and the method interested the researcher very much. Therefore, this study was conducted in 1992.

Objectives of the study

This study, therefore, had its main objective as follows:

1. To analyze the relationships of the factors which were theoretically assumed to have some effects on the second year students' achivement in learning an EAP course.
2. To construct a final causal model of the factors that had significant effects on the students' achievement.

Factors or variables

I. Predictor variables

There were 24 predictor variables in this study. The factors or variables that were theoretically assumed to have some effects on the students' achievement in learning EAP were classified into 3 groups basing on their sources as follows:

a. Learners' variables (15):
   1. sex (SEX)
   2. general English background (EBG)
   3. no. of years in learning English (SYR)
   4. age (AGE)
   5. types of secondary school (STYP)
   6. location of secondary school (LOC)
   7. attending tutoring school (TU)
   8. learning program in secondary school (PRG)
   9. study loads (LOAD)
   10. familty income (INC)
   11. expereicne in a country using English (EXE)
   12. experience in using English mass communication media (MDC)
   13. attitudes (towards EAP course, teaching methods, A-V aids, learning atmosphere and teachers) (ATT)
   14. motivations (instrumental and integrative) (MOT)
   15. study habbits (HAB)

b. Teachers' variables (6):
   1. experience in a country using English (STAY)
   2. highest educational qualification (QTY)
   3. major field of study (MAJ)
   4. English teaching experience (TEXP)
   5. attitudes (towards EAP course, teaching methods, A-V aids, learning atmosphere and students.) (ATTT)
   6. knowledge and understanding about communicative approach (MOA)

c. Curriculum variables (3):
   1. teaching methods (METH)
   2. length of time in teaching the EAP course. (LNG)
   3. supplementary teaching (SUP)

II. Criterion variable

The second year students' achievement in learning EAP II (ACH)

Hypothesis

The hypothesis of the study is that the relationships of the variables (or factors) in a hypothetical casual model fit a full model which was based on empirical data. For example, a student's study load (or a number of study credits in a semester) is directly affected by his family income and sex, and his achievement in learning an EAP course is directly affected by 12 variables (or factors) and indirectly affected by 17 variables.

Therefore, a hypothetical model was proposed as follows. (Figure I and II) along with a full model as follows.

Procedure

a. Population and Subjects

Out of 1,006 second year students learning EAP II in 5 faculties at Chulalongkorn University in the second semester in 1992, 460 were used as the subjects of the study. They were selected by means of a multi-stage random sampling technique when sampling error was not more than 1% and the reliability was 99%. Besides, out of 28 teachers teaching the EAP course, 26 of them or 92.85% were also used as the subjects in this study. As for the students, the subjects were shown in Table I below.

Table I: Population and Subjects

no	faculties	N	no. of classes	selected classes	calculated n	used n	% of from N
1	Economics	125	5	4	41	69	55.20
2	Commerce	418	14	12	138	204	48.80
3	Political Science	186	6	5	62	74	39.78
4	Law	160	5	4	53	60	37.50
5	Communication Arts	117	4	3	39	53	45.30
	Total	1,006	34	28	333	460	45.72

b. Instruments

The instruments used in the study were as fellows:

1. Two achievement tests to test the students' achievement in learning EAP II. One was a mid-term test and the other a final test. Both were used in actual classes.
2. A set of questionnaires asking the students about their personal background and attitudes in learning EAP II.
3. A survey of the students' study habits in learning EAP
4. A set of questionnaires asking the teachers about their personal background and attitudes in teaching EAP II.

The first instruments were constructed by a special group of teachers who had taught the EAP II course for many years and their relaibility indice were 0.85 and 0.87 respectively. The second instrument was constructed by the researcher and composed of filling in the blanks, check lists, Lickert scales and semantic differential scales. Its reliability, using Cronbach alpha coefficient, was 0.87. The third instrument was adapted from the "Survey of Study Habits and Attitudes, Form C" by Brown and Holtzman (Brown and Holtzman, 1967) and translated into Thai. Originally, its concurrent validity was approximately 0.70 and its reliability was approximately 0.90. The formats of the forth instrument were similar to those of the second and its reliabity was 0.74.

c. Data Collection

1. Ask the student subjects to answer the questionnaires and the survey of study habits and return them to their teachers about 2 weeks before the end of the second semester.
2. Ask the teacher subjects to answer the questionnaires and return it to the researcher at the end of the semester.
3. Compile the student subjects' raw scores of the EAP II midterm and final tests from the registrar office of the Language Institute.

d. Data Analysis

The data were then coded onto a coding or and transferred onto a magnatic tape to use by a computer. They were analyzed by SPSS[x] programs (the Statistical Package for the Social Sciences, Version X) by means of descriptive statistics, multiple regressions, F-tests, t-tests and simple correlations. Two special computer programs were also used. One was PLS (Partial Least Square Program) and the other W-tests. Based on Specht's idea, the latter was written by the researcher to test goodness of fit of 2 causal models (Specht, 1975: 113-133). These analyses were leading to a path analysis as proposed for this study.

Findings

It was found that the hypothetical model did not fit significantly with the full model which was based on the empirical data. This means that the hypothesis set forward at the beginning was statistically rejected. Therefore, the hypothetical model was adjusted. Some paths were trimmed, but none was added. When tested later, it was found that the trimmed model fit significanly with the full model ($p=0.05$). These can be shown in Tables II, III, IV and Figure I[illegible] below.

insert Figure I[illegible] here

Table II: R^2, R^2_m or M, Q and W of the 3 Models

Models	R^2	R^2_m or M	Q	W	X^2
1. Full	0.6059	0.9973	-		
2. Hypothetical	0.5886	0.9949	0.5294	262.0365 **	64.8865 *
3. Trimmed	0.5881	0.9969	0.8710	57.5932	59.0192

* P < 0.05 (df = 43)
** P > 0.05 (df = 48)

Table III: Path coefficients of Some Factors

criterion variable	predictor variables	P_{jk}	t
ACH	1. SEX	-0.1138	-2.064 *
r = 0.7669	2. PRG	0.1904	3.713 *
r^2 = 0.5881	3. SYR	0.0685	1.910
	4. MOT	0.1074	2.029 *
	5. HAB	-0.0694	-1.912
	6. EBG	0.6544	14.351 *
	7. QTY	0.1989	3.951 *
	8. MAJ	0.1269	2.324 *
	9. TEXP	0.1802	3.612 *
	10. STAY	-0.1449	-2.734 *
	11. METH	0.0778	1.970 *
	12. SUP	-0.0867	-1.975

* p < 0.05

Table IV: Direct, Indirect and Total Effects of All Factors

predictor variables	direct	indirect	total	r_{xy}
a. leaners'	(1.0239)*	(0.9428)*	(2.0433)*	*
1. SEX	-0.1138*	0.0355	-0.0783*	-0.1725*
2. EBG	0.6544	-	0.6544	0.6767
3. SYR	0.0685	-0.0162*	0.0523*	0.0636*
4. AGE	-	0.1521	0.1521	0.1528*
5. STYP	-	0.0490	0.0490	-0.0810*
6. LOC	-	0.0627	0.0627	0.0864
7. TU	-	0.0364*	0.0364*	0.0378*
8. PRG	0.1904*	0.1654*	0.3558*	0.3674*
9. LOAD	-	0.0045	0.0045	-0.0266
10. INC	-	-0.0173	-0.0173	0.0708*
11. EXE	-	0.0059*	0.0059*	0.2050*
12. MDC	-	0.3472	0.3472	0.3484
13. ATT	-	0.0506*	0.0506*	0.0546*
14. MOT	0.1074*	-	0.1074*	0.1243*
15. HAB	-0.0694	-	-0.0694	-0.0910
b. teachers'	(0.6509)*	(0.3820)*	(0.8381)*	*
1. TEXP	0.1802*	0.0193	0.1995*	0.2014*
2. QTY	0.1989*	-0.0457	0.1532*	0.2115*
3. MAJ	0.1269*	-0.0517	0.0752	0.0797*
4. STAY	-0.1449	-0.0439*	-0.1888*	-0.2543*
5. ATTT	-	0.0837*	0.0837*	0.0879*
6. MOA	-	0.1377	0.1377	0.1437
c. curriculum's	(0.1645)*	(0.0310)	(0.1749)*	*
1. METH	0.0778	0.0103	0.0881	0.1111
2. LNG	-	0.0207	0.0207*	0.0441*
3. SUP	-0.0867	-	-0.0867	-0.1024

* $P < 0.05$

Based on Tables II-IV and Figure III, 2 major points can be concluded as follows:

a. The Relationships of Significant Factors

1. The second year students' achievement in learning EAP was directly and significantly affected by 10 factors namely: 1) sex, 2) learning program in secondary school, 3) general English background), 4) motivation, 5) teacher's highest educational qualification, 6) teacher's experience in teaching English, 7) teacher's experience in a country using English, 8) teacher's major field of study, 9) teaching method and 10) suplementary teaching. They were all statisfically significant. However, there were 2 factors that had only meaningfully significant effects on the students' achievement. They were a number of years in learning English and their study habits. These 12 factors had a total effect of approximately 59% on the students' achievement and of all the students' general English background had the strongest effect of all for 40.64% (P_{jk} = 0.6544).

Besides,there were 20 factors that had indirect effects on the students' achievement and 5 of them were statistically significant. There were 1) age, 2) learning programs in secondary school, 3) experience in using English mass communication media, 4) teacher's knowledge and understanding about communicative approach and 5) teacher's attitudes towards teaching EAP.

Furthermore, it was found that the proportion of direct effects of the factors from the learners, teachers and curriculum was 6:4:1. Their indirect effects were 30:12:1 respectively, and their total effects were approximately 12:5:1.

b. A Final Causal Model

Finally, it was found that the trimmed model or the final causal model was a mixed model. The relationships of some factors (or variables) were outward (Outward Model), while some were inward (Inward Model). The final model was composed of 7 exogeneous varables and 17 endogeneous variables. All 24 predictor variables (factors) in the model could explain 99.69% of the total variance of the whole system.

Discussion

Based on the findings, there are many points worth dicussing as below.

a. Why are there only 10 factors that have significant direct effects on the students' achievement?

This may be because of the following reasons.

1. Many correlations between predictor varaibles and criterion variable are low and some of them are very low. So, when a multiple regression analysis using stepwise method was used, only 10 best predictor variables were included into a predictive equation (Norusis, 1990: B-227). It was found that the correlations of the left over predictor varables were low and ranging from 0.0266 to 0.3484.
2. The design of the hypothetical model had some effects on correlations matrix of the variables in the network. This is a limitation of a path analysis. Normally, it is used to proof a theory but not to construct a new one. (Kerlinger and Pedhazur, 1973: 305).
3. In the past, there were many studies on the effects of some varaibles (or factors) on students' English achievement or proficiency, but, as mentioned previously, most of them were simple correlational studies. So, it was found in many studies that many more factors had significant direct effects on students' English achievement or proficiency. This may not be true in reality because normally life is not that simple. It is very complicated. Only some of them may have direct effects and some indirect effects or both. Therefore, the number of factors that have significant direct effects could be less when a group of factors are considered in a network as a hypothetical model.

b. Why do general English background have the strongest effect on the students' achievement in learning EAP?

This may be because of the following reasons.

1. All students had just learnt 2 foundation English courses in their first year before they took EAP I course in their first semester and then EAP II in the second semester. Based on a study, it was found that an English course that a student has just learnt has more effect on his achievement in learning a new course than any previous courses. (S. Sukamolson and K. Kunasoot, 1990: 72-96). As far as the language structures and teaching approaches of FE and EAP courses are concerned, they are very similar except that their learning topics are different. Therefore, the students may transfer what they had learnt from FE courses to their EAP classes.
2. Other factors that have less effects could be because the students had these factors more or less the same. For example, most of our teachers had master degrees in TESL/TEFL, used similar teaching techniques and very few of them gave supplementary teaching. Statistically, these could explain the results.

c. Why is the final model not "parsimonious"?

Practically, a final (trimmed) model of a path analysis is simple and parsimonious. However, as mentioned earlier, normally life is not that simple. It is very complicated. Therefore, when many variables are considered in a network, sometimes it just cannot be simplified.

Recommendations

a. For teachers and curriculum administrations
   1. The final model should be considered very carefully to see what factors affect the students' achievement in learning EAP significantly and how. If the degree of such factors can be changed to increase their effects, the teachers and the administrators should do so. For example, the teachers should put more emphasis on teaching FE courses.
   2. The teachers could use the final model as a guide to give advice to the EAP students when they have learning problems. It can make the teachers understand them better.

b. For reseachers

   Many more studies of this kind but with different models and more variables should be conducted. This kind of research work could make us as teachers of English understand much more about the effects of some factors on our students' achievement in learning English.

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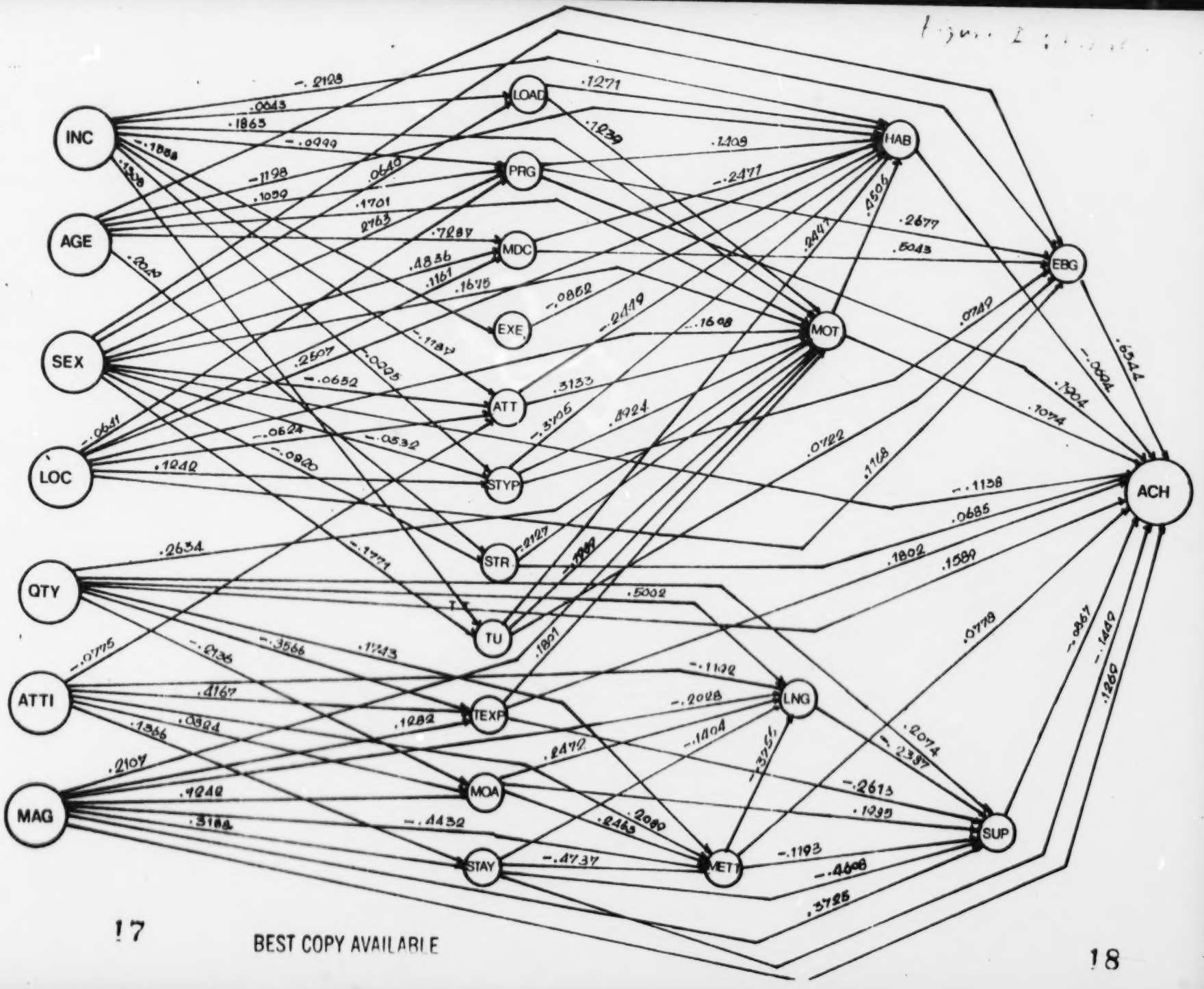

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